

Appl. No. 10/766,702

Preliminary Amendment to RCE in Response to Office Action of December 5, 2005

IN THE CLAIMS

1. (Currently Amended) A method of coating a substrate ~~coating composition for applying to substrates~~ subject to incursion of moisture with a coating composition to resist moisture penetration into the substrate coated with the coating, the method comprising:
applying to a surface of the substrate a coating composition, the coating composition prepared by a process comprising:
heating and blending together a mixture comprising waxes and paraffins and dispersing powdered metal, metal oxide, or metal carbide throughout the mixture; and
cooling the mixture to form a waxy solid substantially free of entrained gasses with powdered metal, metal oxide or metal carbide dispersed therein; and
forming a homogeneous coating on the substrate surface wherein the waxy solid is ~~substantially free of entrained gasses; wherein~~ without need to apply heating need not be ~~applied to render a coating of the composition homogeneous when applied to a substrate;~~
~~and wherein~~ so that moisture incursion into the coated substrate is reduced by at least about 50% as compared to an uncoated substrate under the same temperature and moisture conditions.
2. (Currently Amended) The method ~~coating composition~~ of claim 1, wherein the mixture comprises a mixture of beeswax and paraffins.
3. (Currently Amended) The method ~~coating composition~~ of claim 2, wherein the paraffins comprise primarily aliphatic hydrocarbons having chain lengths in the range from about 18 to about 36 carbon atoms.
4. (Currently Amended) The method ~~coating composition~~ of claim 1, wherein the metal comprises aluminum.
5. (Currently Amended) The method ~~coating composition~~ of claim 1, wherein the metal oxide comprises titanium oxide or aluminum oxide.

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6. (Currently Amended) The method ~~coating composition~~ of claim 2, wherein the metal comprises aluminum.
7. (Currently Amended) The method ~~coating composition~~ of claim 2, wherein the metal oxide comprises titanium oxide or aluminum oxide.
8. (Currently Amended) The method ~~coating composition~~ of claim 1, wherein the mixture, before addition of powdered metal or metal oxide, has a melting point in the range of about 120 to 200°F.
9. (Cancelled) ~~The coating composition of claim 1, wherein, the composition cools to ambient temperature substantially free of occlusion of gas bubbles.~~
10. (Currently Amended) The method ~~coating composition~~ of claim 1, wherein the composition is a solid at temperatures in the range below about 140°F, and liquefies upon heating to a temperature in the range from about 170 to about 190°F.
11. (Currently Amended) The method ~~coating composition~~ of claim 10, wherein the applying comprises applying a liquefied composition ~~physical properties of the liquefied composition enable application of the composition to a surface~~ by spraying, painting with a brush or applying with a roller.
12. (Currently Amended) The method ~~coating composition~~ of claim 1, wherein the powdered metal or metal oxide or metal carbide comprises a sufficient amount to permit uniform heating of a mass of the composition, and to provide such internal compression of a mass of the composition upon cooling as to substantially exclude occluded gasses from a cooled mass.

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13. (Currently Amended) The method coating composition of claim 1, wherein the amount of powdered metal or metal oxide in the mixture comprises from about 5 to about 15 wt. %, based on the weight of the mixture.
14. (Currently Amended) The method coating composition of claim 1, wherein the applying comprises applying to when-coated-onto a composite material subject to moisture absorption under hot and wet ambient conditions, and the formed coating composition reduces moisture absorption by from about 60 to about 100% as compared to an uncoated composite.
15. (Currently Amended) A method of coating a composite with a composition resistant to penetration by moisture, the composition substantially preventing moisture absorption into a composite otherwise subject to moisture absorption under hot and wet ambient conditions, the method comprising:
applying to a surface of the composite a the composition comprising:
 - a) a mixture of esters of fatty acids and aliphatic hydrocarbons having a melting point in the range from about 170 to about 190°F; and
 - b) a powdered additive in sufficient amount to permit uniform heating of a mass of the composition and to provide compression of a mass of the composition upon cooling sufficient to substantially exclude occluded gasses from a cooled mass;forming a coating on the composite surface without need to heat the applied composition
wherein the composition comprises a waxy solid at room temperature; and wherein when the molten composition is applied to a substrate to form a coating, the coating does not require heating to render the coating homogeneous.
16. (Currently Amended) The method coating composition of claim 14, wherein the mixture comprises paraffins and waxes, the paraffins primarily having a chain length of from about 18 to about 36 carbon atoms.

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17. (Currently Amended) The ~~coating composition~~ method of claim 15, wherein the powdered additive is selected from the group consisting of powdered metals, metal carbides and metal oxides.
18. (Currently Amended) The ~~coating composition~~ method of claim 16, wherein the powdered additive comprises powdered aluminum comprising particulates in the range from about 25 to about 60 microns.
19. (Currently Amended) The ~~coating composition~~ method of claim 17, wherein the powdered additive is selected from aluminum and titanium oxide.
20. (Currently Amended) The ~~coating composition~~ method of claim 14, wherein the composition ~~comprising~~ comprises a solid at ambient temperatures in the range below about 140°F.
21. (Currently Amended) The ~~coating composition~~ method of claim 14, wherein the forming of a coating when coated onto a composite material ~~subject to moisture absorption under ambient conditions of temperature and humidity, the composition~~ forms a coating that reduces moisture absorption by from about 60 to about 100%.